



Maryland Department of Health and Mental Hygiene

Recommended Childhood Immunization Schedule - 2005

Age ► Vaccine ▼	Birth	2 mos	4 mos	6 mos	12 mos	15 mos	2 yrs	4-6 yrs	11-12 yrs	13-18 yrs
Hepatitis B	Hep B¹	Hep B		Hep B	If previously unvaccinated begin series ²					
Diphtheria, Tetanus, Pertussis		DTaP³	DTaP	DTaP		DTaP³		DTaP³	Td⁴	
Haemophilus Influenza type b		Hib	Hib	Hib⁵		Hib				
Inactivated Polio		IPV	IPV	IPV				IPV⁶		
Measles, Mumps, Rubella					MMR⁷			MMR⁷		
Varicella					Var⁸	If previously unvaccinated, vaccinate ⁸				
Pneumococcal ⁹		PCV7	PCV7	PCV7	PCV7					
Influenza ¹⁰ (Annual)				All children 6 — 23 months			High Risk			
Meningococcal ¹¹									MCV4¹¹	If previously unvaccinated, vaccinate ¹¹
Hepatitis A ¹²								Recommended for Baltimore City Residents		
Catch-up Vaccination			Preadolescent Assessment					Select Populations		

Recommended Adult Immunization Schedule - 2005

Vaccine ▼ Age Group ►	19-49 Years	50-64 Years	65 Years and Older
Tetanus, Diphtheria (Td)	←----- 1 dose booster every 10 years ¹ -----→		
Influenza	1 dose annually for certain persons ²	←----- 1 annual dose -----→	
Pneumococcal Polysaccharide	1 dose for persons with medical or other indications ^{3,4}		1 dose for unvaccinated ³ persons 1 dose for revaccination ⁴
Hepatitis B	3 doses (0,1-2,4-6 months) persons with medical, behavioral, occupational, or other indications ⁵		
Hepatitis A	2 doses (0,6-12 months) for persons with medical, behavioral, occupational, or other indications ⁶		
Measles, Mumps, Rubella (MMR)	1 dose if history unreliable 2 doses for persons with certain indications ⁷		
Varicella	2 doses (0, 4-8 weeks) for persons who are susceptible ⁸		
Meningococcal	1 dose for persons with medical or other indications ⁹		

Catch-up Vaccination

Select Populations

2005 Adult Immunization Schedule Footnotes*

- Tetanus and diphtheria (Td)** - A primary series for adults is 3 doses: the first 2 doses given at least 4 weeks apart and the 3rd dose, 6-12 months after the second.
- Influenza** - Recommended yearly for people who have chronic medical conditions, women who will be in their 2nd or 3rd trimester of pregnancy during flu season, residents of long term care and household members, or caregivers of high-risk persons. Recommended for all persons 50 years of age or older.
- Pneumococcal Polysaccharide** - Recommended for persons with certain chronic medical conditions and residents of nursing homes. Unvaccinated persons should receive one dose at age 65.
- Pneumococcal Polysaccharide** - One time revaccination of persons who were vaccinated 5 or more years previously and with certain chronic medical conditions. For persons 65 and older, one-time revaccination if they were vaccinated 5 or more years previously and were aged less than 65 years at the time of primary vaccination. Reference *MMWR* 1997; 46 (RR-8):1-24.
- Hepatitis B** - Reference *MMWR* 1991; 40 (RR-13):1-25.
- Hepatitis A** - Reference *MMWR* 1999; 48 (RR-12):1-37.
- MMR** - Adults born in or after 1957 should receive at least one dose of MMR. Two (2) doses are recommended for adults who have medical or occupational indications. For women of child-bearing age, routinely determine rubella immunity and counsel women regarding congenital rubella syndrome. Reference *MMWR* 1999; 47 (RR-8):1-57
- Varicella** - Recommended for all persons who do not have reliable clinical history of varicella infection, or serological evidence of varicella zoster virus infection
- Meningococcal** - Consider vaccination for persons with medical indications and all students enrolled in institutions of higher learning . **Proof of vaccination is required for individuals living in on-campus student housing at Maryland institutions of higher learning (COMAR 10.06.05)**. Two meningococcal vaccines are licensed for use - Meningococcal conjugate (MCV4) recommended for routine use in persons 11-55 years of age. Meningococcal Polysaccharide (MPSV4) recommended for persons 2 years of age and older where medically indicated.

Maryland 2005 Childhood Immunization Schedule Footnotes*

- 1 **All infants should receive the first dose of hepatitis B vaccine at birth, before hospital discharge.** All hospitals should ensure that newborn infants of mothers whose hepatitis B surface antigen (HBsAg) status is unknown receive their first dose of hepatitis B vaccine within 12 hours of birth. Maternal blood should be drawn at the time of delivery to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than one week). Infants born to HBsAg-positive mothers should receive hepatitis B vaccine and 0.5 ml hepatitis B immune globulin (HBIG) within 12 hours of birth. Four doses of vaccine may be administered when a birth dose is given. The last dose in the series (3rd or 4th) should not be administered before 24 weeks.
- 2 Children who have not previously received three (3) doses of hepatitis B vaccine should initiate or complete the series. The 2nd dose should be administered at least 1 month after the 1st dose, and the 3rd dose should be administered at least 4 months after the 1st dose and at least 2 months after the 2nd dose. Previously unvaccinated adolescents aged 11-15 years may receive the two-dose schedule (using the adult dosage), with the 2nd dose being administered 4-6 months after the first (only Merck's Recombivax HB[®] is approved for this 2-dose schedule).
- 3 Use diphtheria tetanus toxoids (DT) pediatric vaccine when pertussis vaccine is contraindicated. The 4th dose of DTaP may be administered as early as 12 months of age, provided 6 months have lapsed since the 3rd dose. If the 4th DTaP is administered after the 4th birthday, a 5th DTaP is not necessary.
- 4 Tetanus and diphtheria toxoids (Td) is recommended for persons 7 years of age and older. Td is recommended at age 11 - 12 years if at least 5 years have elapsed since the last dose of tetanus and diphtheria toxoid containing vaccine. A routine booster is recommended every 10 years.
- 5 Three conjugate Hib vaccines are licensed for infant use. **If PRP-OMP (PedvaxHib[®] or ComVax[®] [Merck]) is administered at ages 2 and 4 months, a dose at 6 months is not required.** DTaP/Hib combination products should not be used for primary immunization in infants at ages 2, 4, or 6 months, but can be used as boosters following any Hib vaccine. Any unvaccinated child 15-59 months of age should receive a single dose of vaccine and may be given any one of the three conjugate vaccines licensed for this age group.
- 6 The fourth dose of IPV is not needed if the third dose is given on or after the fourth birthday.
- 7 **MMR vaccine must be administered on/after (not before) the first birthday.** Children first vaccinated when younger than 12 months of age should receive another dose between 12 to 15 months of age. The second dose of MMR is routinely recommended at 4-6 years of age (school entry), however, it may be administered at any visit after 12 months of age, provided at least 28 days have elapsed since receipt of the 1st dose.
- 8 **Varicella (chickenpox) vaccine must be administered on/after (not before) the first birthday.** Varicella vaccine is recommended for susceptible children or children who lack a reliable history of chickenpox or prior varicella vaccination. Susceptible persons 13 years of age or older should receive two (2) doses, 1 month apart.
- 9 The heptavalent pneumococcal conjugate vaccine (PCV7) is recommended for all children age 2-23 months. It is also recommended for high-risk children 24-59 months of age. It is not generally recommended for children 5 years of age or older. Pneumococcal polysaccharide vaccine (PPV) is recommended in addition to PCV7 for certain high-risk groups. Previously unvaccinated healthy children should receive one dose if first dose administered at or after 24 months of age.
- 10 During the annual influenza season (October through March), **all children 6 months to 23 months of age and children 2 years of age or older with high-risk medical conditions are recommended to receive influenza vaccine.** Children aged 8 years of age or younger who are receiving inactivated influenza vaccine for the first time should receive two (2) doses separated by at least one month.
- 11 Meningococcal conjugate vaccine (MCV-4) is recommended for 11-12 year olds at the preadolescent assessment visit. Previously unvaccinated persons (13—18 years of age) should be vaccinated at high school entry. Recommended for all college freshmen living in dormitories.
- 12 Hepatitis A vaccination is routinely recommended for children living in Baltimore City. Two (2) doses should be administered, on or after (not before) the 2nd birthday, with the second dose given 6-12 months after the first.

For Children and Adolescents Who Start Late or Who Are >1 Month Behind

There is no need to restart a vaccine series regardless of the time that has elapsed between doses.

Table 1. Catch-up schedule for children age 4 months through 6 years

Dose One (Minimum Age)	Minimum Interval Dose One to Dose Two	Minimum Interval Dose Two to Dose Three	Minimum Interval Dose Three to Dose Four	Minimum Interval Dose Four to Dose Five
DTaP (6 wks)	4 weeks	4 weeks	6 months	6 months ¹
IPV (6 wks)	4 weeks	4 weeks	4 weeks ²	
Hep B³ (birth)	4 weeks	8 weeks (16 weeks after first dose)		
MMR (12 mos)	4 weeks ⁴			
Hib⁵ (6 wks)	4 weeks: if 1 st dose given at age <12 mos 8 weeks (as final dose): if 1 st dose given at age 12-14 mos No further doses needed: if first given at age 15 mos or older	4 weeks⁶: if current age <12 mos 8 weeks (as final dose)⁶: if current age 12 mos or older and 2 nd dose given at age <15 mos No further doses needed: if previous dose given at age 15 mos or older	8 weeks (as final dose): this dose only necessary for children age 12 mos - 5 yrs who received 3 doses before age 12 mos	
PCV7⁷ (6 wks)	4 weeks: if 1 st dose given at age <12 mos and current age <24 mos 8 weeks (as final dose): if 1 st dose given at age 12 mos or older or current age 24-59 mos No further doses needed: for healthy children if 1 st dose given at age 24 mos or older	4 weeks: if current age <12 mos 8 weeks (as final dose)⁸: if current age 12 mos or older No further doses needed: for healthy children if previous dose given at age 24 mos or older	8 weeks (final dose): this dose only necessary for children age 12 mos - 5 yrs who received 3 doses before age 12 mos	

Table 2. Catch-up schedule for children age 7 through 18 years

Dose One	Minimum Interval Dose One to Dose Two	Minimum Interval Dose Two to Dose Three	Minimum Interval Dose Three to Booster Dose
Td⁸	4 weeks	6 months	6 months: if 1 st dose given at age <12 mos and current age <11 yrs 5 years: if dose given at age 12 mos or older and 3rd dose given at age <7 yrs and current age 11 yrs or older 10 years: if 3rd dose given at age 7 yrs or older
IPV⁹	4 weeks	4 weeks	
Hepatitis B	4 weeks	8 weeks (16 weeks after first dose)	
MMR	4 weeks		
Varicella¹⁰	4 weeks		

- DTaP:** The fifth dose is not necessary if the fourth dose was given after the 4th birthday.
- IPV:** For children who received an all-IPV or all-OPV series, a fourth dose is not necessary if third dose was given at age 4 years or older. If both OPV and IPV were given as part of a series, a total of four doses should be given, regardless of the child's current age.
- Hep B:** All children and adolescents who have not been immunized against hepatitis B should begin the vaccination series.
- MMR:** The second dose of MMR is recommended routinely at age 4-6 years, but may be given earlier if desired.
- Hib:** Vaccine is not generally recommended for children age 5 years or older.
- Hib:** If current age <12 months and the first 2 doses were PRP-OMP (PedvaxHIB® or ComVax®), the third (and final) dose should be given at age 12-15 months and at least 8 weeks after the second dose.
- PCV:** Vaccine is not generally recommended for children age 5 years or older.
- Td:** For children age 7-10 years, the interval between the third and booster dose is determined by the age when the first dose was given. For adolescents age 11-18 years, the interval is determined by the age when the third dose was given.
- IPV:** Vaccine is not generally recommended for persons age 18 years or older.
- Varicella:** Give 2-dose series to all susceptible adolescents age 13 years or older.